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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,787	12/06/2000	Yuval Harari	00/21265	8216

7590 04/20/2005

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EXAMINER	
LEE, RICHARD J	
ART UNIT	**PAPER NUMBER**
2613	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/729,787	HARARI ET AL.
	Examiner	Art Unit
	Richard Lee	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 03 February 2005.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8,15-20,26-33,35 and 38-66 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8,15-20,26-33,35,38-45 and 48-66 is/are rejected.

7)☐ Claim(s) 46, 47 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The request filed on February 3, 2005 for a Request for Continued Examination (RCE) is acceptable and a RCE has been established. An action on the RCE follows.

2. Claims 42 to 44, 46, and 47 are objected to because of the following informalities:

(1) claim 42, line 7, "locaed" should be changed to "located" for clarity;

(2) claim 43, line 12, "sampeld" should be changed to "sampled" for clarity; and

(3) claim 46, line 17, after "said", "." should be deleted for clarity.

Appropriate correction is required.

3. Claims 15-20, 26-33, 35, 48-50, and 57-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For examples:

(1) claim 15, line 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d);

(2) claim 15, line 11, "said images" shows no clear antecedent basis;

(3) claim 30, line 6, "said data" shows multiple antecedent basis (see lines 3, 5)

(4) claim 48, line 2, "said mounted object" shows no clear antecedent basis;

(5) claim 48, lines 11-12, "said mounted object" shows no clear antecedent basis;

(6) claim 48, line 15, before "feature", "image" should be properly inserted in order to provide proper antecedent basis for the same as specified at line 11; and

(7) claim 48, line 16, "said internal coordinate system" shows no clear antecedent basis.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 40, 41, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Bacus et al of record (6,101,265).

Bacus et al discloses a method and apparatus for acquiring and reconstructing magnified specimen images from a computer controlled microscope as shown in Figures 1-11, and the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as claimed in claim 45, comprising the same at least one data acquisition device (i.e., 16 of Figure 5), operable to scan a field of interest and acquire field data of parts having field location data, the field location data being intrinsic to the field data (i.e., the field location data pertain to the address of the location of the tissue or cells, see column 3, line 17 to column 4, line 29, column 4, line 65 to column 5, line 19, column 7, lines 16-48, column 11, lines 14-42, column 11, line 62 to column 12, line 5), from the field of interest using each of at least a first and a second data acquisition process (see 24, 26, 28 of Figures 1-3 and column 7, lines 16-48), the field location data comprising at least one image location marker being an imaged feature of a sample being imaged (i.e., a marker, such as a cursor or the like is provided by a user indicating a selected area of interest, see column 3,

line18 to column 4, line 28, column 4, line 65 to column 5, line 19); field data storage device for storing the field data together with corresponding intrinsic field location data (see column 8, lines 26-36, column 9, lines 36-58); a field data display device (see Figures 1-3) being operable to display simultaneously field data, acquired respectively by the first and the second data acquisition process, the field data being matchable by the intrinsic field location data (see column 7, lines 16-48, column 8, lines 27-67).

In addition, Bacus et al shows the same method of constructing an image gathering and display co-ordination system as claimed in claims 40 and 41, comprising the same providing an image gathering device operable to gather image data, using a plurality of image gathering processes, according to externally provided positioning commands, further operable to cross reference the positioning commands to location data intrinsic an object being sampled in the image data (i.e., the cross referencing of the positioning commands corresponds to editing and positioning the XY step size, see rectangular boundary within point 290 of Figure 11, see column 3, line 43 to column 4, line 16, column 9, line 36 to column 10, line 59, column 11, line 14 to column 12, line 5), providing an image storing device and connecting the image storing device to the image gathering device such that the image storing device is able to store data gathered from the image gathering device in association with the externally provided positioning commands and the intrinsic location data cross-referenced thereto and corresponding to the data, and providing an image display device for simultaneously displaying a plurality of images gathered using different image gathering processes but with identical cross-referencing between the positioning commands and intrinsic location data (see Figures 1-5, column 7, lines 16-48, columns 8-9), and wherein the image display device is associated with a storage device and is

operable to display at least one image from the storage device together with one image direct from the image gathering device (i.e., as provided by 24, 26, 28 of Figures 1-3, and see column 7, lines 16-48, column 8, lines 27-36, column 9, lines 36-49).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-8, 30, 31, 35, 38, 39, 42-44, 51, 63, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacus et al of record (6,101,265) as applied to claims 40, 41, and 45 in the above paragraph (5), and further in view of Boon et al of record (5,939,278).

Bacus et al discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as above, further including substantially the same data acquisition and display system and method, acquisition and display coordinating method, method of display of data acquired in at least two data acquisition methods from a scannable field of interest, method of constructing an image gathering and display coordination system, control system for controlling an image data acquisition device, a control system for controlling an imaging device and a display device, as claimed in claims 1-8, 30, 31, 35, 38-44, 51, 57, 63, and 64, comprising substantially the same at least one data acquisition device (i.e., 16 of Figure 5), operable to acquire field image data of the object in the presently viewed field having field location data (see

column 3, line 17 to column 4, line 29, column 4, line 65 to column 5, line 19, column 7, line 16-48, column 11, lines 14-42, column 11, line 62 to column 12, line 5), from a scannable field of interest using each of at least a first and a second data acquisition process (see 24, 26, 28 of Figures 1-3, and column 7, lines 16-48), the field location data comprising location data intrinsic to the object, thereby to provide field location data that is constant for the first and second data acquisition process (i.e., the field location data as provided by addressing of the tissues or cells provide location data that is intrinsic to the field data to further provide field location data that is constant for the first and second acquisition process (see 24, 26, 28 of Figures 1-3, column 3, lines 16-48, column 9, line 36 to column 10, line 59)); wherein the scannable field of interest is substantially larger than the presently viewed field such that a plurality of viewed fields are required to cover the scannable field of interest (see 24, 26 of Figures 1-3, column 7, lines 16-48, column 8, lines 27-67); wherein the field data storage device (column 8, lines 26-36, column 9, lines 36-58) is operable to store image data of an entirety of the scannable field of interest acquired according to the first data acquisition process; the data acquisition device is operable to acquire image data of a presently viewed field using the second data acquisition process and the field data display device is operable to display the image data in real time in conjunction with a corresponding image acquired using the first data acquisition process (see 24, 26, 28 of Figures 1-3, and column 7, lines 16-48), the data acquisition device is a microscope (i.e., 16 of Figure 5) being one of a group comprising a light microscope, a scanning electron microscope, and a transmission electron microscope; acquiring first image data of a field of view within a field of interest being scanned using a first data acquisition process and subsequently acquiring second

image data of a corresponding field of view within the field of interest being scanned using a second data acquisition process (see 24, 26, 28 of Figures 1-3 and column 7, lines 16-48); wherein the data acquisition device is adapted for gathering data of a microscopic scale biological entity (see column 2, lines 48-64); and wherein the changes comprises removing an initial marker and applying a different marker (see column 3, lines 24-32, column 4, line 65 to column 5, line 18); forming a plurality of first images of the field of interest (i.e., low magnification of images, see column 3, lines 33-42, column 4, line 31 to column 5, line 58), indexing the images (i.e., selected points of interest are provided with a marker, see column 4, line 65 to column 5, line 18, column 8, lines 61-67, column 11, line 62 to column 12, line 5) using location information intrinsic to each respective image and to an object being sampled in the scannable field, and comprising at least one imaged feature of a sample being imaged, storing the indexed images (see column 11, lines 14-42, column 9, lines 36-58, column 11, lines 30-42), scanning the field of interest using a second data acquisition process (i.e., high magnification of images, see column 3, lines 33-42, column 4, line 31 to column 5, line 58) to form at least one second image corresponding to the one of the first images and corresponding to an index of a predetermined one of the first images, indexing the at least one second image using the intrinsic location information (i.e., selected points of interests are provided with a marker, see column 4, line 65 to column 5, line 18, column 8, lines 61-67, column 11, line 62 to column 12, line 5), determining from the indices which of the first images corresponds to the second image, and simultaneously displaying the second image and a respective corresponding first image (see column 3, line 17 to column 4, line 29, column 4, line 65 to column 5, line 19, column 7, line 16-48, column 11, lines 14-42, column 11, line 62 to column 12, line 5); the control system (see

column 8, lines 26-67, column 9, lines 36-58) being operable to store image data obtained using the first data acquisition process together with location data, the location data comprising location of at least one feature intrinsic to an object being sampled and located on the slide (i.e., markers provided by the user for identifying selected areas of interest and the labeling of regions for subsequent scanning and analysis provides the location data comprising location of at least one feature intrinsic to an object being sampled, see column 4, line 65 to column 5, line 18, column 11, lines 14-42), and to display an image corresponding to the image data simultaneously with a further image having the intrinsic location data, the further image acquired using the second data acquisition process (i.e., as provided by 24, 26, 28 of Figures 1-3); the control system for permitting a user to move over a field of interest with the imaging device to image a sampled object within the field in parts using one imaging process, to index each part with a current location of the imaging device and location data using a feature intrinsic to the sampled object (i.e., selected points of interests are indexed with markers by a user indicating location data intrinsic to the sampled object and with the aid of a mouse, see column 4, line 65 to column 5, line 18, column 8, lines 61-67, column 11, line 62 to column 12, line 5) and to display a current part of the display device whilst simultaneously and automatically displaying a second image of a same part of the field previously obtained using a different imaging process (i.e., region 30 as provided in low magnification may also be displayed when reproduced at high magnification within window 26 of Figure 1, see column 7, lines 16-48) and indexed using a then current location of the imaging device and the intrinsic location data (i.e., selected points of interests are indexed with markers and with the aid of a mouse, see column 4, line 65 to column 5, line 18, column 8, lines 61-67, column 11, line 62 to column 12, line 5), the second image

being automatically replaced as the imaging device moves to a different part of the field of interest using a respective index, the intrinsic location data being applicable to the object both images (see Figures 1-5 and columns 7-9); retrieving the first data using the intrinsic field location data and simultaneously displaying the first data and the second data, the intrinsic field location data comprising at least one feature of a sample within a field of view (i.e., simultaneous displaying of the first and second data provided by 24, 26, 28 of Figures 1-3, and the markers provided by the user for identifying selected areas of interest and the labeling of regions for subsequent scanning and analysis provide the intrinsic field location data comprising at least one feature of a sample within a field of view, see column 4, line 65 to column 5, line 18, column 11, lines 14-42), the imaging device is operable to image the field of interest using at least three imaging processes and wherein the display device is operable to display simultaneously all images of a part of the field of interest currently being viewed (see 24, 26, 28 of Figures 1-3).

Bacus et al does not particularly disclose, though, displaying an object in a presently viewed field before and after changes are applied to the object, wherein changes are being applied to the object between the first and second data acquisition processes; the at least one feature being selected thereby to follow changes applied to the sample being viewed within the field of view; wherein an object in the scannable field of interest is liable to change between the scans; indexing the images using location information intrinsic to teach respective image to thereby follow the image over the change; acquiring image data according to at least first and second data acquisition processes from a slide to which changes are applied between the data acquisition processes; and changes being made to the sampled object as claimed in claims 1, 30, 38-39, 42, and 43. However, Boon et al discloses an automated histological specimen

classification system as shown in Figures 1-3, and teaches the conventional use of destaining and restaining of tissues for viewing under the microscope (see column 3, lines 41-55, column 10, lines 10-65), thereby providing the displaying of an object in a presently viewed field before and after changes are applied to the object, wherein changes are being applied to the object between the first and second data acquisition processes, and wherein the at least one feature is selected thereby to follow changes applied to the sample being viewed within the field of view (i.e., the markers provided by the user for identifying selected areas of interest and the labeling of regions for subsequent scanning and analysis within Bacus et al provide the feature selection so that the changes provided by Boon et al may be applied to the sample being viewed, see column 4, line 65 to column 5, line 18, column 11, lines 14-42 of Bacus). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al and Boon et al references in front of him/her and the general knowledge of the viewing of microscopic tissue specimens, would have had no difficulty in providing the display of an object in a presently viewed field before and after changes resulting in the destaining and restaining of tissues as taught by Boon et al as part of the microscopic viewing system within Bacus et al for the same well known viewing of before and after staining of tissues for identifying defects purposes as claimed.

8. Claims 15-20, 26-29, 57, 59, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacus et al and Boon et al as applied to claims 1-8, 30, 31, 35, 38-45, 51, 63, and 64 in the above paragraphs (5) and (7), and further in view of Kley of record (4,806,776) and Engelhardt of record (6,529,271).

The combination of Bacus et al and Boon et al discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount

and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as above, further including the location data comprising location data that is relative to an object in the image data such as to apply both before and after the change (i.e. the markers provided by the user for identifying selected areas of interest and the labeling of regions for subsequent scanning and analysis within Bacus et al provide the location data, and such markers and labeling of regions may be provided such as to be applied before and after the change provided by Boon et al, see column 4, line 65 to column 5, line 18, column 11, lines 14-42 of Bacus, see column 3, lines 41-55, column 10, lines 10-65 of Boon et al), wherein the changes are being related to preparations for respective ones of the processes (i.e., as provided by the destaining and restaining of tissues within Boon et al (see column 10, lines 10-65), for viewing under the microscope of Bacus et al); coordinator operable to position the data acquisition device, monitor positioning of the data acquisition device (see Figures 4 and 5 of Bacus et al), wherein the location data additionally comprises focussing data for defining a focal plane (see Abstract, column 2, lines 28-47 of Bacus et al); software on computer readable media for installation on a computer operatively associated with the data acquisition device (see Figures 4 and 5 of Bacus et al).

The combination of Bacus et al and Boon et al does not particularly disclose, though, the followings:

(a) the first and second data acquisition processes being respectively different illumination type, illumination path, marking and data gathering combinations as claimed in claim 15;

(b) wherein one of the data acquisition processes is a bright field data acquisition method as claimed in claim 59; and

(c) wherein one of the data acquisition processes comprises using reflected light and the other of the data acquisition processes comprises using transmitted light as claimed in claim 61.

Regarding (a), Kley discloses an electrical illumination and detecting apparatus as shown in Figures 1, 81, 91, 93, 100-112, and teaches the conventional use of different illuminations, markings, and data gathering combinations for the imaging and detecting systems (see Figures 1, 81, 91, 93, and 100-112, column 36, lines 20-63, column 38, lines 13-37, column 39, line 56 to column 40, line 6, column 40, lines 15-28, column 42, line 57 to column 43, line 2), and the illumination of samples either with transmissive or reflective light (see column 9, lines 56-68). It is noted that Kley fails to disclose that the first and second data acquisition methods are respectively different illumination type and illumination path as claimed. However, Engelhardt discloses a method of finding, recording and evaluating object structures as shown in Figure 4, and teaches the conventional first and second data acquisitions (i.e., 2a and 2b of Figure 4) respectively provided with different illumination type and path (see column 3, lines 59-67, column 4, lines 31-56, column 6, lines 39-62). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, Kley, and Engelhardt references in front of him/her and the general knowledge of illumination and data gathering techniques in an image data acquisition system, would have had no difficulty in providing different illumination type, illumination path, marking and data gathering combination systems as taught by the combination of Kley and Engelhardt as the specific means for picking up the first and second

images of Bacus et al for further displaying of the images as acquired for the same well known image acquisition and display purposes as claimed.

Regarding (b), the particular use of bright field data acquisitions are however old and well recognized in the art, as exemplified by Kley (see column 7, lines 28-30, column 39, lines 22-32). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, Kley, and Engelhardt references in front of him/her and the general knowledge of the different types of illuminations, would have had no difficulty in providing the bright field and/or ultra violet illuminations as taught by Kley for the pickup system of Bacus et al and Boon et al for the same well known illuminations purposes as claimed.

Regarding (c), Kley teaches the particular illumination of samples either with transmissive or reflective light (see column 9, lines 56-68). In view of the particular teachings of Kley involving selective reflective and transmissive lighting techniques as shown in Figures 1, 56-58, 81, 91, 93, and 100-112, it is therefore considered obvious to provide a transmissive light to one of the data acquisition processes of Bacus et al while providing the reflective light to the other of the data acquisition processes of Bacus et al. Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, Kley, and Engelhardt references in front of him/her and the general knowledge of illumination and data gathering techniques in an image data acquisition system, would have had no difficulty in providing the selective reflected and transmissive lights as taught by Kley respectively to the data acquisition methods of Bacus et al for picking up the first and second images of Bacus et al for further displaying of the images as acquired for the same well known image lighting for acquisition and display purposes as claimed.

9. Claims 53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bacus et al and Boon et al as applied to claims 1-8, 30, 31, 35, 38-45, 51, 63, and 64 in the above paragraphs (5) and (7), and further in view of Kley of record (4,806,776).

The combination of Bacus et al and Boon et al discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as above, but does not particularly disclose the followings:

(a) wherein one of the data acquisition processes is a bright field data acquisition method, and wherein one of the data acquisition processes uses ultra-violet illumination as claimed in claim 53; and

(b) wherein one of the data acquisition processes comprises using reflected light and the other of the data acquisition processes comprises using transmitted light as claimed in claim 55.

Regarding (a), the particular use of bright field data acquisitions and ultra-violet illuminations are however old and well recognized in the art, as exemplified by Kley (see column 7, lines 28-30, column 39, lines 22-32). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, and Kley references in front of him/her and the general knowledge of the different types of illuminations, would have had no difficulty in providing the bright field and/or ultra violet illuminations as taught by Kley for the pickup system of Bacus et al and Boon et al for the same well known illuminations purposes as claimed.

Regarding (b), Kley teaches the particular illumination of samples either with transmissive or reflective light (see column 9, lines 56-68). In view of the particular teachings of Kley involving selective reflective and transmissive lighting techniques as shown in Figures 1, 56-58, 81, 91, 93, and 100-112, it is therefore considered obvious to provide a transmissive light to one of the data acquisition processes of Bacus et al while providing the reflective light to the other of the data acquisition processes of Bacus et al. Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, and Kley references in front of him/her and the general knowledge of illumination and data gathering techniques in an image data acquisition system, would have had no difficulty in providing the selective reflected and transmissive lights as taught by Kley respectively to the data acquisition methods of Bacus et al for picking up the first and second images of Bacus et al for further displaying of the images as acquired for the same well known image lighting for acquisition and display purposes as claimed.

10. Claims 52, 54, 65, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bacus et al and Boon et al as applied to claims 1-8, 30, 31, 35, 38-45, 51, 63, and 64 in the above paragraphs (5) and (7), and further in view of Yamamoto et al of record (5,624,798).

The combination of Bacus et al and Boon et al discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as above, but does not particularly disclose

wherein the first and second data acquisition processes respectively comprise applying different staining systems to the biological entity, wherein one of the staining systems is fluorescent staining, wherein an initial staining is a contrast enhancing stain, and wherein the second data acquisition process comprises using a staining comprising FISH as claimed in claims 52, 54, and 65. However, Yamamoto et al discloses a detection method of nucleic acid by use of fluorescent pyrylium stain in intercalation into nucleic acids and teaches the conventional use of the application of different staining systems to biological entities, fluorescent staining systems, contrast enhancing stains, and FISH staining (see column 2, lines 16-54, column 3, line 24 to column 4, line 21). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, and Yamamoto et al references in front of him/her and the general knowledge of the staining of biological entities for microscopic imagings, would have had no difficulty in providing the different staining systems including the fluorescent and contrast enhancing stainings, including FISH stains as taught by Yamamoto et al to the biological entities within the first and second data acquisitions of Bacus et al for the same well known highlighting of the presence of absence of certain types or features of bacteria or other biological material that is helpful to the technician purposes as claimed.

11. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bacus et al, Boon et al, and Yamamoto et al as applied to claims 1-8, 30, 31, 35, 38-45, 51, 52, 54, and 63-65 in the above paragraphs (5), (7), and (10), and further in view of Kley of record (4,806,776).

The combination of Bacus et al, Boon et al , Yamamoto et al discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to

a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as above, but does not particularly disclose wherein one of the data acquisition processes uses ultra violet illumination as claimed in claim 56. The particular use of ultra-violet illuminations are however old and well recognized in the art, as exemplified by Kley (see column 7, lines 28-30, column 39, lines 22-32). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, Yamamoto et al, and Kley references in front of him/her and the general knowledge of the different types of illuminations, would have had no difficulty in providing the or ultra violet illuminations as taught by Kley for the pickup system of Bacus et al and Boon et al for the same well known illuminations purposes as claimed.

12. Claims 58, 60, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bacus et al, Boon et al, Kley, and Engelhardt as applied to claims 1-8, 15-20, 26-31, 35, 38-45, 51, 57, 59, 61, 63, and 64 in the above paragraphs (5), (7), and (8), and further in view of Yamamoto et al of record (5,624,798).

The combination of Bacus et al, Boon et al, Kley, and Engelhardt discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using an co-ordinate system intrinsic to the mounted object as above, further including wherein one of the data acquisition process comprises using ultra violet illumination (see column 39, lines 22-32).

The combination of Bacus et al, Boon et al, Kley, and Engelhardt does not particularly disclose wherein the first and second data acquisition processes respectively comprise applying different staining systems to the biological entity, wherein one of the staining systems is fluorescent staining as claimed in claims 58 and 60. However, Yamamoto et al discloses a detection method of nucleic acid by use of fluorescent pyrylium stain in intercalation into nucleic acids and teaches the conventional use of the application of different staining systems to biological entities, and fluorescent staining systems (see column 2, lines 16-54, column 3, line 24 to column 4, line 21). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, Kley, Engelhardt, and Yamamoto et al references in front of him/her and the general knowledge of the staining of biological entities for microscopic imagings, would have had no difficulty in providing the different staining systems including the fluorescent stainings as taught by Yamamoto et al to the biological entities within the first and second data acquisitions of Bacus et al for the same well known highlighting of the presence of absence of certain types or features of bacteria or other biological material that is helpful to the technician purposes as claimed.

13. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bacus et al and Boon et al as applied to claims 1-8, 30, 31, 35, 38-45, 51, 63, and 64 in the above paragraphs (5) and (7), and further in view of Spigarelli et al of record (5,627,913).

The combination of Bacus et al and Boon et al discloses substantially the same data acquisition and display system, method of applying an intrinsic co-ordinate system to a mount and object system to provide co-ordinated viewing of points on a mounted object imaged using different image gathering processes, and a method of imaging a mount and object system using

an co-ordinate system intrinsic to the mounted object as above, but does not particularly disclose wherein the first and second images, being simultaneously displayed, are superimposed one on the other as claimed in claim 32. However, Spigarelli et al discloses a placement system using a split imaging system coaxially coupled to a component pickup means as shown in Figures 4 and 7, and teaches the conventional superimposing of images for simultaneous display (see column 4, lines 21-44, column 11, lines 4-10, lines 39-50, column 12, lines 10-51). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, and Spigarelli et al references in front of him/her and the general knowledge of imaging location identification and image superimposing techniques, would have had no difficulty in providing the simultaneous display of superimposed images as taught by Spigarelli et al for the imaging system of Bacus for the same well known superimposing of images for simultaneous viewing purposes as claimed.

14. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bacus et al and Boon et al as applied to claims 1-8, 30, 31, 35, 38-45, 51, 63, and 64 in the above paragraphs (5) and (7), and further in view of Hellmuth et al of record (5,795,295).

The combination of Bacus et al and Boon et al discloses substantially the same data acquisition and display system, image data storage device, acquisition and display coordinator and method, method of display of data acquired in at least two data acquisition methods from a scannable field of interest, method of constructing an image gathering and display coordination system, control system for controlling an image data acquisition device, a control system for controlling an imaging device and a display device, a method of applying an intrinsic coordinate system to a mount and object system, and a method of imaging a mount and object system using

an intrinsic coordinate system as above, but does not particularly disclose wherein the first and second images are simultaneously displayed side by side as claimed in claim 33. Side by side displaying of simultaneous displayed images are however old and well recognized in the art, as exemplified by Hellmuth et al (see column 8, lines 13-28). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bacus et al, Boon et al, and Hellmuth et al references in front of him/her and the general knowledge of image displaying techniques, would have had no difficulty in providing the simultaneous display of images side by side as taught by Hellmuth et al for the imaging system of Bacus et al for the same well known simultaneous displaying of images purposes as claimed.

15. Claims 46-50 would be allowable if rewritten or amended to overcome the objection(s) and rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

16. The applicants argued at pages 19-22 of the amendment filed December 3, 2004 concerning in general that "... As clearly stated in Bacus column 9, line 42, the co-ordinate system he uses are in fact X and Y co-ordinates of the microscope stage. This is sufficient for Bacus where the different images are simply the same mounting imaged with different magnification lenses. The slide is not moved in the meantime and therefor if the operator selects a point on the image taken from one magnification, the selected point is simply translated to the corresponding X-Y co-ordinates of the stage. In the present invention however, the possibility is provided of moving the slide, imaging it using a different technique, retaining it and the like. The slide may be removed and then replaced on the stage in the meantime and may thus have moved with respect to its original position. The invention therefore provides a co-ordinate system which is intrinsic to the image ... In the present invention, the co-ordinate system works

after the slide has been moved and replaced, and between two microscopes. In Bacus the co-ordinate system does neither of these since the co-ordinate system is based on the stage of the microscope …". The Examiner wants to point out again that: The Specification is not the measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. In re Sporck, 55 CCPA 743, 386 F.2d 924, 155 USPQ 687 (1968). And secondly, it is still submitted that the particular use of the X and Y addressing of the cells or tissues in the X and Y coordinate system as taught by Bacus et la (see column 3, lines 16-48, column 9, line 36 to column 10, line 59) provides the same co-ordinate system which is intrinsic to the image as claimed.

Regarding the applicants' arguments at pages 22-23 of the amendment filed December 3, 2004 concerning in general that neither Kley nor Bacus nor Engelhardt disclose the key point that image location data is gathered which is intrinsic to the image itself by being based on features on the sample so that images from two different gather operations can be compared, the Examiner respectfully disagrees. The Examiner wants to point out again that markers provided by the user for identifying selected areas of interest and the labeling of regions for subsequent scanning and analysis provide the location data comprising location of at least one feature intrinsic to an object being sampled, as claimed (see column 4, line 65 to column 5, line 18, column 11, lines 14-42 of Bacus et al).

Regarding the applicants' arguments at pages 23-25 of the amendment filed December 3, 2004 concerning in general that the prior art neither discloses nor hints at such a way of registering between two images, the co-ordinate system of Bacus to the hardware of Kley would not arrive at a solution to the problem because as soon as the object is removed for restaining or

the like, the stage based co-ordinate system of Bacus can no longer register the images, and Yamamoto does not teach use of features on the sample itself as a location guide for following between two images of the same sample, the Examiner respectfully disagrees for reasons above (see above paragraphs (5), and (7) to (10)).

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Richard Lee/rl

4/13/05